providing an infinitely scalable network topology.

[0025] In a first aspect of the invention, a centralized distribution model of the Internet is abandoned in favor of a switch fabric network matrix.

[0026] In a second aspect of the invention, each node of the switch fabric network matrix utilizes at least one Open IP Services Platform to provide all IP services, including high capacity data storage.

[0027] In a third aspect of the invention, an overloaded node is able to pass off IP service tasks to any other node in the switch fabric network matrix.

[0028] In a fourth aspect of the invention, the switch fabric network matrix is optimized for a high percentage of local network traffic, thereby alleviating the burden on trunk lines, and reducing the need for large network backbones.

[0029] In a fifth aspect of the invention, each node in the switch fabric network matrix maintains bandwidth.

[0030] These and other objects, features, advantages and alternative aspects of the present invention will become apparent to those skilled in the art from a

consideration of the following detailed description taken in combination with the accompanying drawings.

Description of the drawings:

[0031] Figure 1 is a block diagram of a typical network topology of the prior art.

[0032] Figure 2 is a block diagram of an Open IP Services Platform that functions as a building block for a switch fabric network matrix.

[0033] Figure 3 is a block diagram that explains how the Open IP Services Platform 30 incorporates a Level 4 switch router at the bottom level, and a general purpose central processing unit (CPU) 34 at the top level.

[0034] Figure 4 is a block diagram that is provided to give greater detail to the configuration of the Open IP Services Platform.

[0035] Figure 5 is a block diagram of the software architecture in the Open IP Services Platform.

[0036] Figure 6 is a block diagram of a traditional tree structure of a network.

[0037] Figure 7 is a block diagram illustrating the

problems that occur when there is a saturated communication line in the traditional tree structure network of figure 6.

[0038] Figure 8 is block diagram illustrating the switch fabric network matrix that is made in accordance with the principles of the presently preferred embodiment.

[0039] Figure 9 is a block diagram of an alternative embodiment of the present invention.

[0040] **Detailed Description:** Reference will now be made to the details of the invention in which the various elements of the present invention will be described and discussed so as to enable one skilled in the art to make and use the invention. It is to be understood that the following description is only exemplary of the principles of the present invention, and should not be viewed as narrowing the claims which follow.

[0041] The present invention encompasses a range of improvements that by themselves and in combination are novel inventions. The fundamental building block of the invention is a new network topology to be applied to a